

LET'S TALK ABOUT JOBS

How do we **Farm** out workers?

Powered by



Event Farm



20Event_Farm15

How do we FARM out jobs?



Powered by



Event Farm



20Event_Farm15

What is Gearman?

 **Gearman**

- Embeddable and Lightweight
- Fast, C/C++
- No single point of failure
- Distributed workers
- Async vs. Sync
- Who uses it?
 - (Craigslist, Tumblr, Yelp, Etsy)

Powered by



Event Farm



20Event_Farm15

What can you DO with it?

- Parallel processing in PHP!
- Workers in a different language
- Image processing
- Shipping quotes
- Stock quotes

Powered by

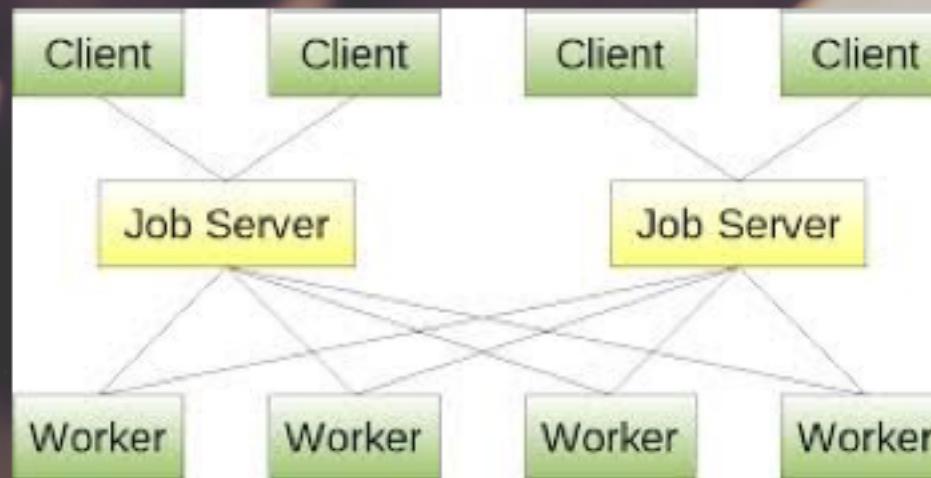


Event Farm

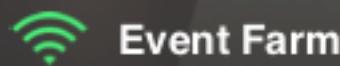


20Event_Farm15

How is it organized?



Powered by

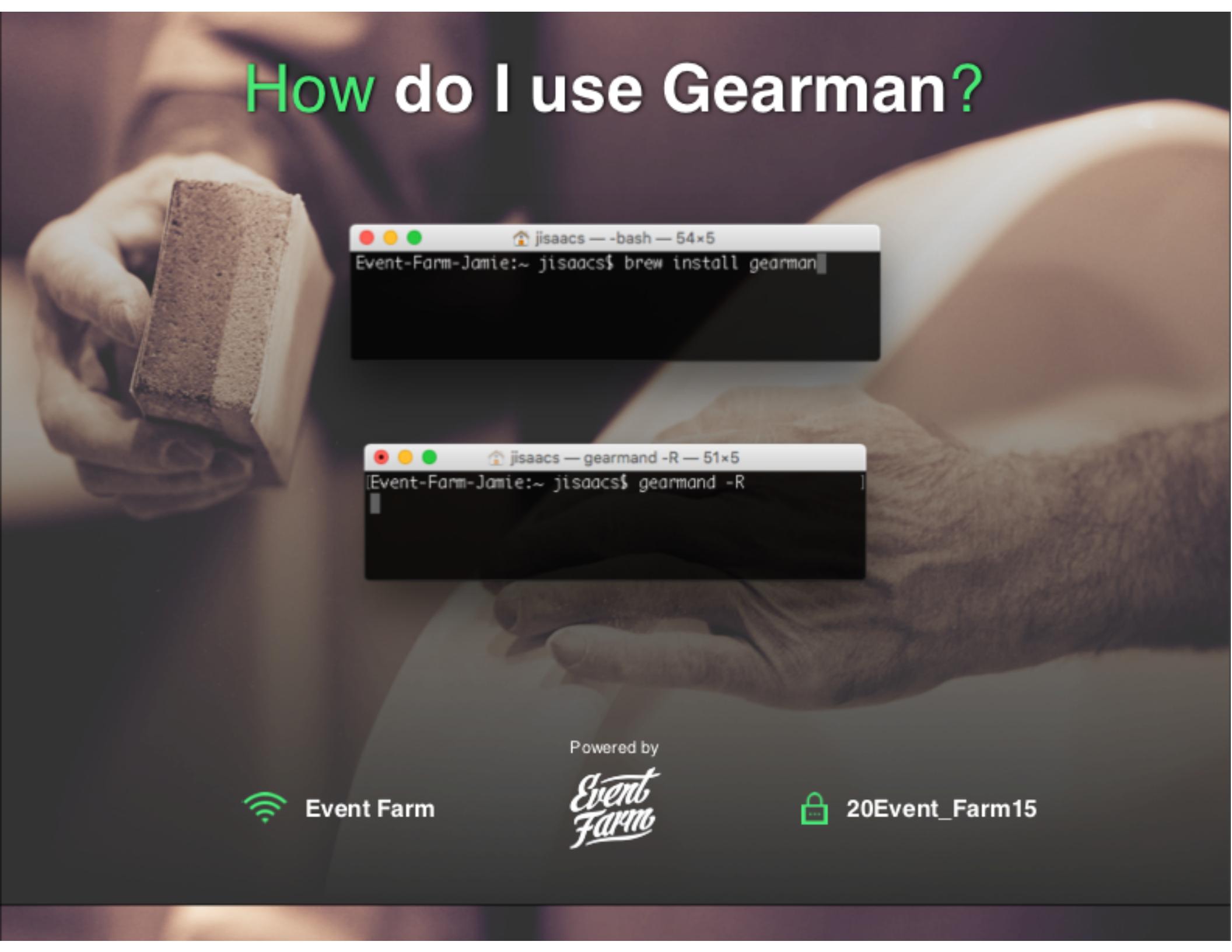


Event Farm



20Event_Farm15

How do I use Gearman?

A close-up photograph of a person's hands. The person is wearing a light-colored long-sleeved shirt. In their right hand, they are holding a small, rectangular wooden block with a circular gear-like pattern carved into its surface. In their left hand, they are holding a smartphone. Two rectangular windows representing terminal sessions are displayed on the screen of the phone. The top window has a title bar "jisaacs — bash — 54x5" and shows the command "Event-Farm-Jamie:~ jisaacs\$ brew install gearman". The bottom window has a title bar "jisaacs — gearmand -R — 51x5" and shows the command "Event-Farm-Jamie:~ jisaacs\$ gearmand -R".

```
jisaacs — bash — 54x5
Event-Farm-Jamie:~ jisaacs$ brew install gearman

jisaacs — gearmand -R — 51x5
Event-Farm-Jamie:~ jisaacs$ gearmand -R
```

Powered by

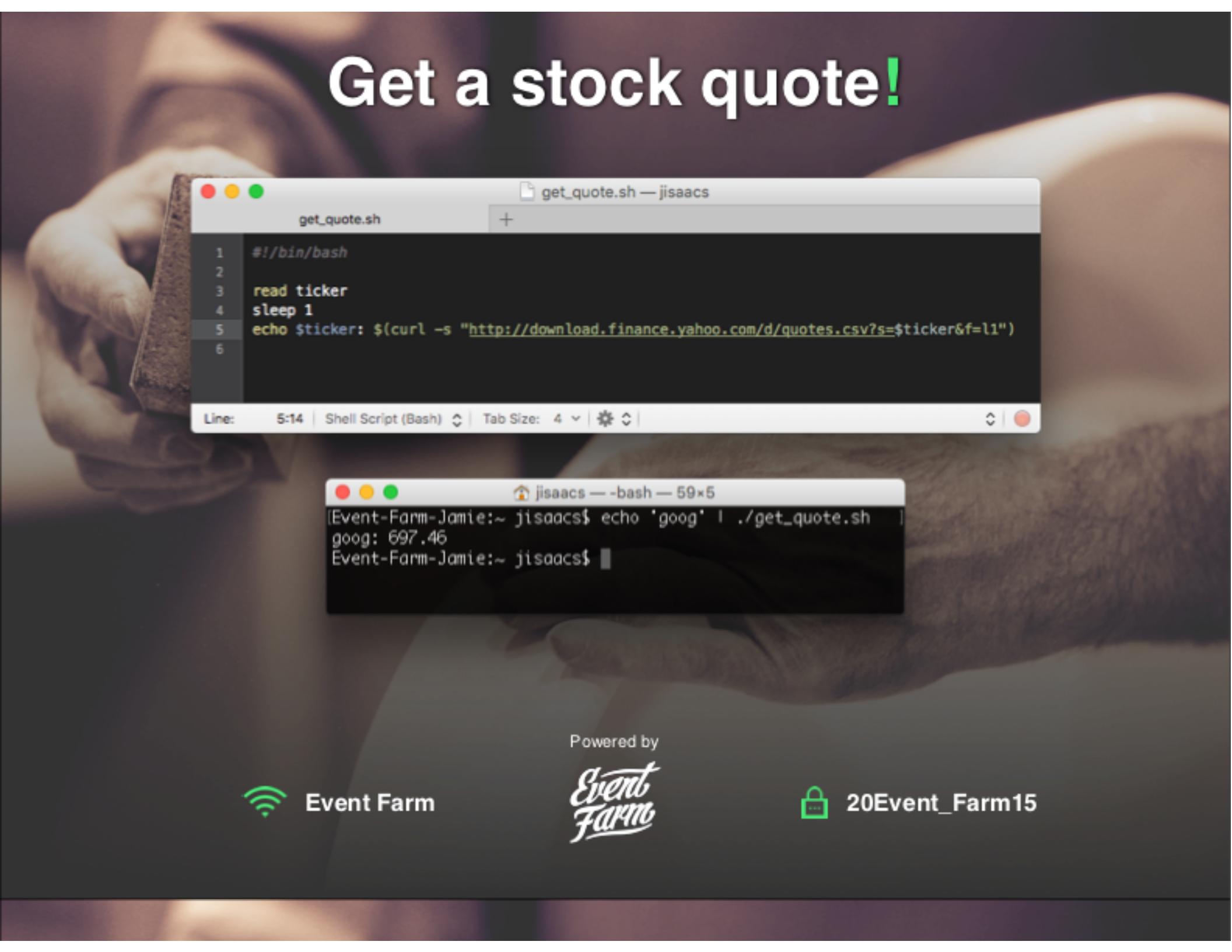


Event Farm



20Event_Farm15

Get a stock quote!

A close-up photograph of a person's hands. The left hand is holding a smartphone, which displays a terminal window titled "get_quote.sh — jisaacs". The terminal shows a shell script named "get_quote.sh" with the following code:

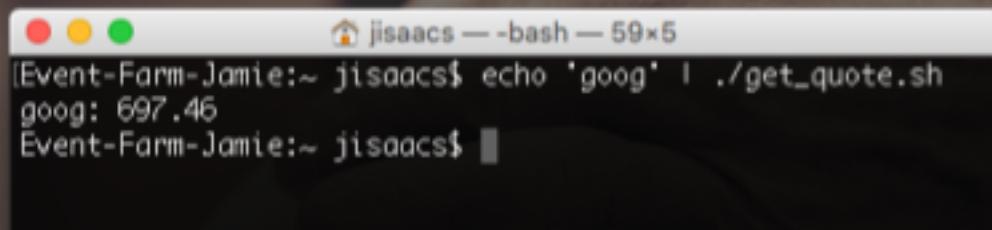
```
#!/bin/bash
read ticker
sleep 1
echo $ticker: $(curl -s "http://download.finance.yahoo.com/d/quotes.csv?s=$ticker&f=l1")
```

The status bar at the bottom of the terminal window indicates "Line: 5:14 | Shell Script (Bash) | Tab Size: 4 |".

get_quote.sh — jisaacs

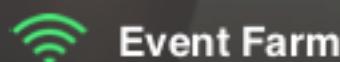
```
#!/bin/bash
read ticker
sleep 1
echo $ticker: $(curl -s "http://download.finance.yahoo.com/d/quotes.csv?s=$ticker&f=l1")
```

Line: 5:14 | Shell Script (Bash) | Tab Size: 4 |

A terminal window titled "jisaacs — -bash — 59x5" showing the execution of the "get_quote.sh" script. The command "echo 'goog' | ./get_quote.sh" is run, and the output "goog: 697.46" is displayed.

```
jisaacs — -bash — 59x5
(Event-Farm-Jamie:~ jisaacs$ echo 'goog' | ./get_quote.sh
goog: 697.46
Event-Farm-Jamie:~ jisaacs$ )
```

Powered by



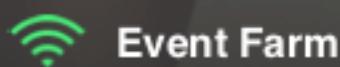
Get a stock quote from a **worker**

```
jisaacs — gearmand -R — 51x5
[Event-Farm-Jamie:~ jisaacs$ gearmand -R
```

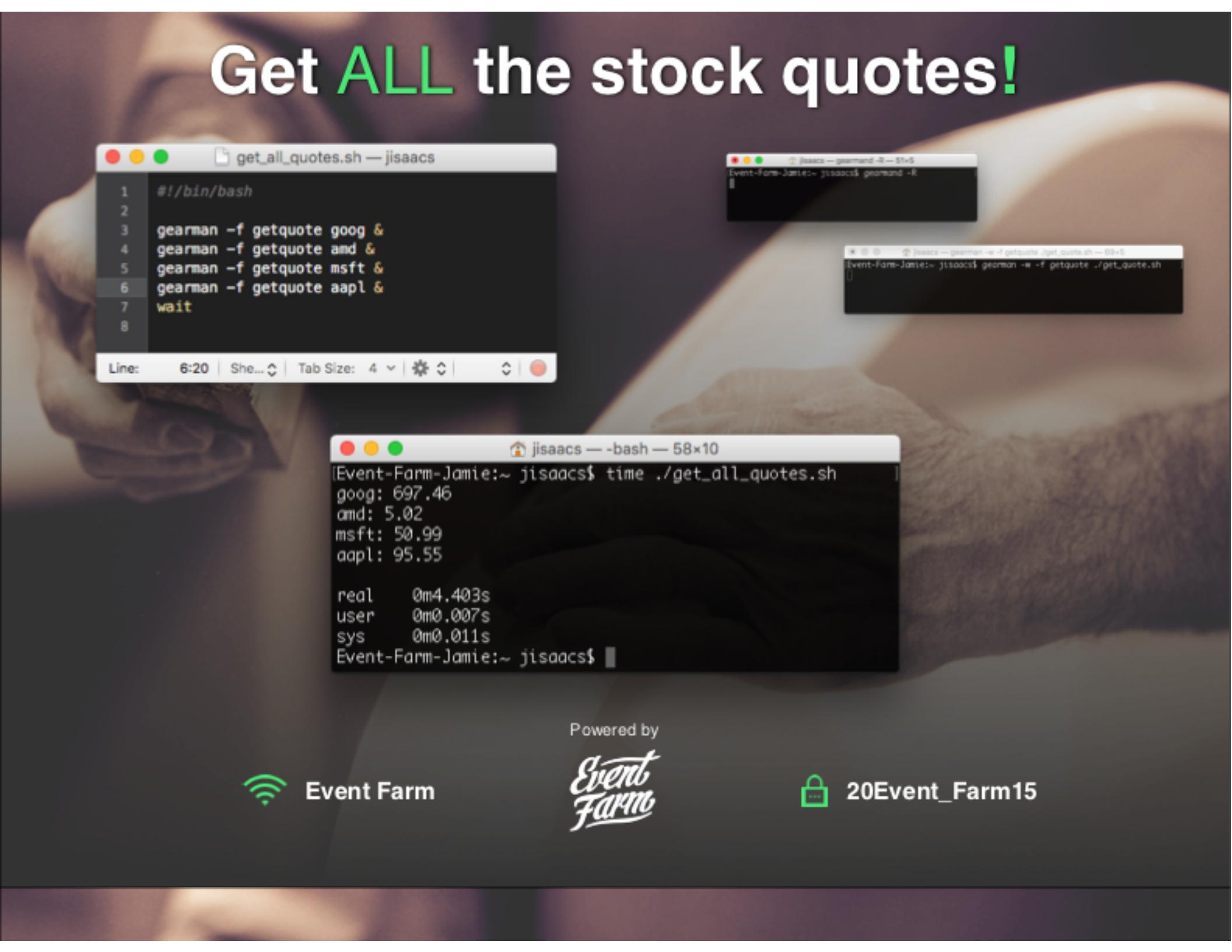
```
jisaacs — gearman -w -f getquote ./get_quote.sh — 69x5
[Event-Farm-Jamie:~ jisaacs$ gearman -w -f getquote ./get_quote.sh
```

```
jisaacs — --bash — 66x5
[Event-Farm-Jamie:~ jisaacs$ echo "msft" | gearman -f getquote
msft: 50.99
[Event-Farm-Jamie:~ jisaacs$ gearman -f getquote msft
msft: 50.99
[Event-Farm-Jamie:~ jisaacs$
```

Powered by



Get ALL the stock quotes!



A hand is visible on the left side of the slide, holding a smartphone. The screen of the phone shows a stock quote for Google (goog) at \$697.46.

```
#!/bin/bash  
  
gearman -f getquote goog &  
gearman -f getquote amd &  
gearman -f getquote msft &  
gearman -f getquote aapl &  
wait
```

```
jisaacs — gearmand -R — 31x5  
Event-Farm-Jamie:~ jisaacs$ gearmand -R
```

```
jisaacs — gearman -w -f getquote ./get_quotes.sh — 89x5  
Event-Farm-Jamie:~ jisaacs$ gearman -w -f getquote ./get_quote.sh
```

```
jisaacs — bash — 58x10  
[Event-Farm-Jamie:~ jisaacs]$ time ./get_all_quotes.sh  
goog: 697.46  
amd: 5.02  
msft: 50.99  
aapl: 95.55  
  
real 0m4.403s  
user 0m0.007s  
sys 0m0.011s  
Event-Farm-Jamie:~ jisaacs$
```

Powered by

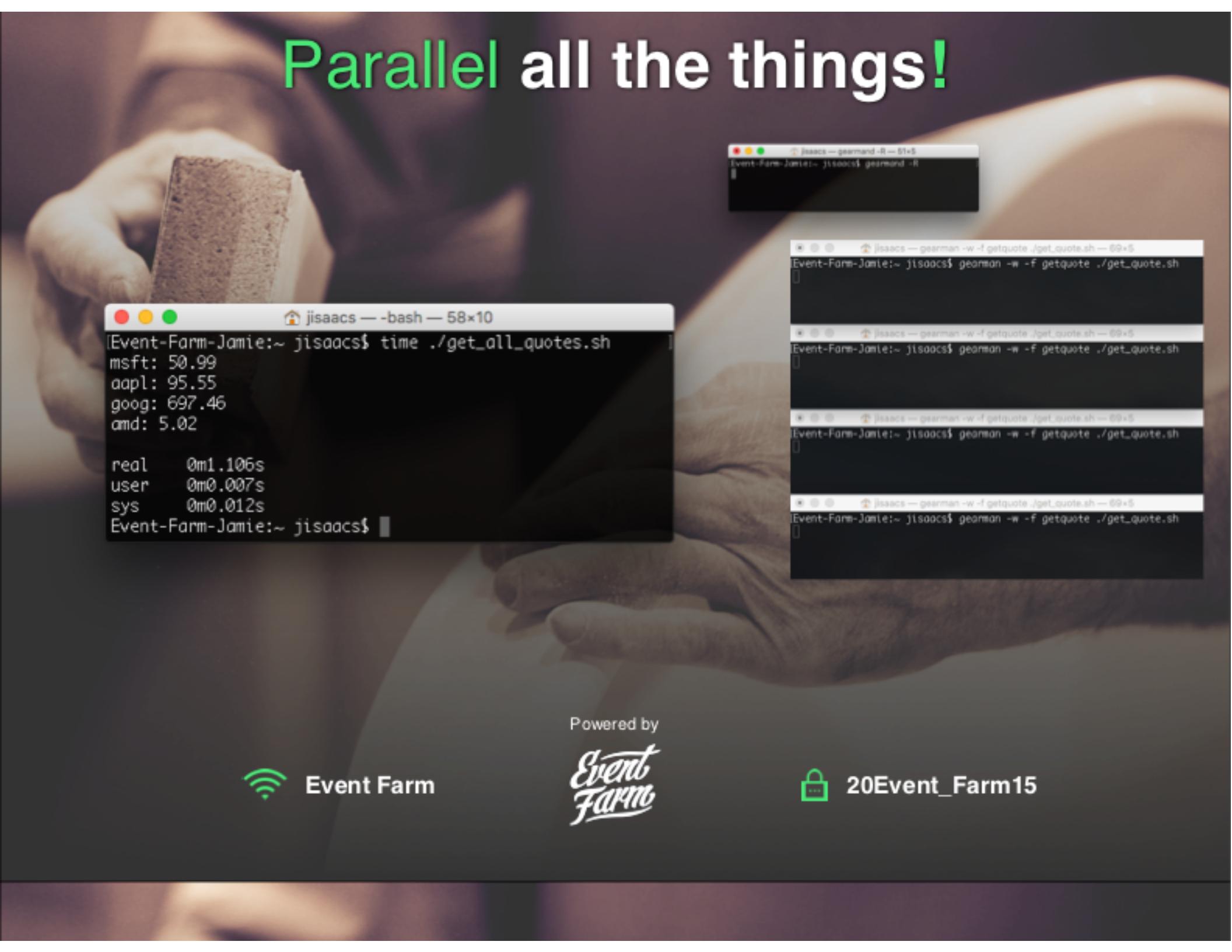


Event Farm



20Event_Farm15

Parallel all the things!



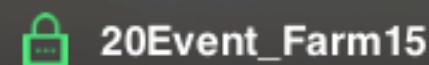
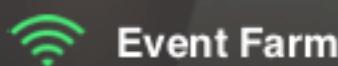
```
jisaacs — -bash — 58x10
[Event-Farm-Jamie:~ jisaacs$ time ./get_all_quotes.sh
msft: 50.99
aapl: 95.55
goog: 697.46
amd: 5.02

real    0m1.106s
user    0m0.007s
sys     0m0.012s
Event-Farm-Jamie:~ jisaacs$
```

```
jisaacs — gearmand -R — 51x5
Event-Farm-Jamie:~ jisaacs$ gearmand -R
```

```
jisaacs — gearman -w -f getquote ./get_quote.sh — 69x5
Event-Farm-Jamie:~ jisaacs$ gearman -w -F getquote ./get_quote.sh
jisaacs — gearman -w -f getquote ./get_quote.sh — 69x5
Event-Farm-Jamie:~ jisaacs$ gearman -w -F getquote ./get_quote.sh
jisaacs — gearman -w -f getquote ./get_quote.sh — 69x5
Event-Farm-Jamie:~ jisaacs$ gearman -w -F getquote ./get_quote.sh
jisaacs — gearman -w -f getquote ./get_quote.sh — 69x5
Event-Farm-Jamie:~ jisaacs$ gearman -w -F getquote ./get_quote.sh
```

Powered by



Why Gearman?

- Gearman is better for queueing **JOBS**
 - Fan out work to *independent workers*
- RabbitMQ is better for queuing **DATA**
 - Feed data from ***many sources*** to fewer consumers

Powered by



Event Farm



20Event_Farm15